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मानक

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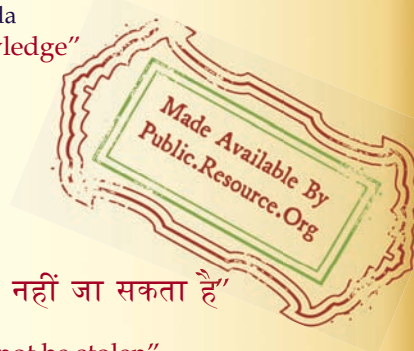
IS 7381 (1986): Hand operated square drive socket wrenches  
[PGD 5: Assembly Hand Tools]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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*Indian Standard*

# SPECIFICATION FOR HAND OPERATED SQUARE DRIVE SOCKET WRENCHES

*( First Revision )*

**1. Scope** — Covers the dimensions and other requirements for hand operated square drive socket wrenches used in conjunction with tommy bars, cranks, ratchets or any other connecting part having square driving ends conforming to IS : 7214-1974 'Driving squares for hand socket wrenches'.

**2. Dimensions** — Dimensions shall be as given in Table 1.

**2.1 Tolerances on Width Across Flats** — As specified for forged and subsequently unmachined spanners in IS : 2027-1980 'Width across flats for spanners and sockets ( *second revision* )'.

**3. Material** — Suitable steels meeting the requirements laid down in 5.

*Example:*

Steel designation, T50 Cr4 V2 of IS : 3749-1978 'Tool and die steel for cold working ( *first revision* )'.

**4. Designation** — Hand operated square drive socket wrench of nominal size 30, that is, width across flats 30 mm and using 20 mm drive square on other end and having single hexagon operating end shall be designated as:

Socket Wrench 30 × 20S IS : 7381.

**Note** — For double hexagon the symbol 'D' shall be used.

**5. Hardness, Workmanship and Finish, Torque Testing and Sampling** — Shall be in accordance with IS : 6131-1980 'Technical requirements for hand operated wrenches ( spanners ) and sockets ( *first revision* )'. The torque values shall conform to series 'E' of IS : 6131-1980.

**6. Marking** — Each socket wrench shall be marked with its nominal size, that is, width across flats and the size of the driving square near its respective ends and manufacturers name, initials or recognized trade-mark.

**6.1 Certification Marking** — Details available with the Bureau of Indian Standards.

## EXPLANATORY NOTE

This standard was first published in 1974. The present revision has been taken up in order to include the wrenches of nominal sizes 3.5, 4.5, 6, 9, 15, 16, 18, 21, 34, 65, 70, 75 and 80 mm since these sizes are also popularly being used. While revising, long execution and short execution wrenches have also been included. Short execution sizes are standardized whereas the long executions are recommendatory. Long execution sizes are also used as spark plug wrenches.

This revised standard is in alignment with DIN 3124-1980 'Square drive socket wrenches for hexagon bolts, hand operated', issued by Deutsches Institut für Normung (DIN) which is further in alignment with ISO/DIS 2725-1985 'Assembly tools for screws and nuts — Power and hand operated square drive sockets—Metric and inch series', issued by International Organization for Standardization (ISO).

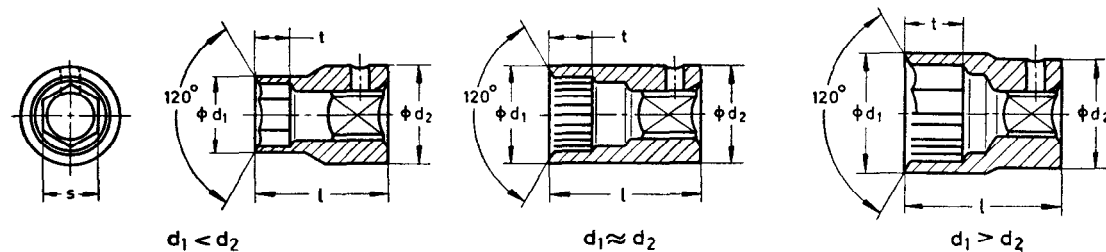
Adopted 7 October 1986

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**TABLE 1 DIMENSIONS FOR HAND OPERATED SQUARE DRIVE SOCKET WRENCHES**  
( Clause 2 )

All dimensions in millimetres.



Female Square as per IS : 7214

Nominal Size S*	Driving Square†																					
	t Min	6-3				10				12-5				20				25				
		d <sub>1</sub> Max	d <sub>2</sub> Max	l Max Short type	l Min Long type	d <sub>1</sub> Max	d <sub>2</sub> Max	l Max Short type	l Min Long type	d <sub>1</sub> Max	d <sub>2</sub> Max	l Max Short type	l Min Long type	d <sub>1</sub> Max	d <sub>2</sub> Max	l Max Short type	l Min Long type	d <sub>1</sub> Max	d <sub>2</sub> Max	l Max Short type		
3-2	1-6	5-9	12	25	45																	
3-5	1-7	6-3																				
4	2	6-9																				
4-5	2-3	7-5																				
5	2-5	8-2																				
5-5	3	8-8																				
(6)	3-5	9-4																				
7	4	11-0							11-0													
8	5	12-2							12-2													
(9)	5	13-5				14			13-5													
10	6	14-7	15			14-7	20															
11‡	7	16-0	16			16-0		32	45													
(12)	8	17-2	17			17-2																
13		18-5	19			18-5					24											
(14)		19-7	20			19-7						40										
15						21-0																
16	10					22-2																
(17)						23-5	24				25											
18						24-7		35														
(19)	12					26-0			60		27	42										
21						28-5																
(22)	14					29-7		38														
24	16										30	44										
27	18										31	46										
30	20										34	48										
(32)	22										38	50										
34											41											
36	24																					
41	27																					
46	30																					
50	33																					
55	36																					
60	39																					
65	42																					
70	45																					
75	48																					
80	52																					
Form of operating End		Hexagon				Double Hexagon												Hexagon or Double Hexagon				

Note 1 — The sizes specified in parentheses ( ) are non-preferred.

Note 2 — The illustrations are diagrammatic only and are not intended to illustrate details of design.

\*Nominal size (*S*) is the width across flats of the socket wrench.

†Driving squares shall conform to IS : 7214-1974.

‡For the use of automobile manufacturing industry.